

18 CHANNEL UNIT LOCAL TERMINALS

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18.1 CHLT-IDENTIFICATIONS

Type-number: PTS-6831-001
Test-Program: TERTST
Channel: Programmed Channel
Devices: Selector Unit Local Terminals: PTS-6314-0XX
(XX=configuration number)
TP71: PTS-6371-0XX (equipped with COML)
FT80: PTS6281/83

Power-Consumption: +5 Volt, 2.2 Amp.

Transmission mode: A-synchronous, PTS local procedure, with acknowledgement of each transmitted character, via Local Cable.
Character length: 16 bits. Full Duplex.

Line Speed: fixed by strap: 38.4 kHz or
76.8 kHz

18.2 INSTALLATION DETAILS

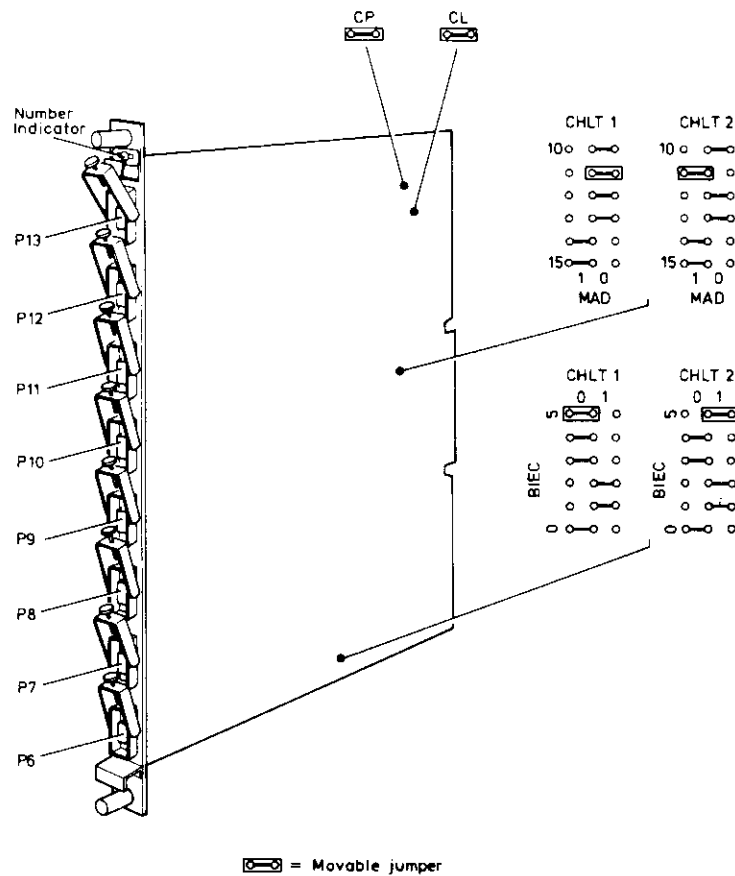


Figure 18.1 STRAP-SETTINGS

Strap CL can be put in two positions: L = 38.4 kHz | Transfer rate
H = 76.8 kHz | bits/second

Number Indicator: CHLT1 : slide to show 1 (Terminals 1 - 8)
CHLT2 : slide to show 2 (Terminals 9 - 16)

18.3 INTERFACE CONNECTIONS

Signal name	Pin no.'s CU Connector
DATA IN	1 & 2
DATA OUT	3 & 4
CLOCK	5 & 9

Table 18.1 CU TO TERMINAL CONNECTIONS

At the rear of the Channel Unit are 8 connectors, each 9 sockets Cinch Connector.

One to eight terminals may be connected.

A terminal connected to the bottom connector is called Terminal 1 (logical 0).

The terminal connected to the top connector is called Terminal 8 (logical 7).

The Channel Unit may be connected to a Terminal by means of a e.g. Local Cable; the length of which may not exceed 150 meters.

LOCAL CABLE

For cabling see chapter 2 "Installation"

The "local" cables have a "Cinch" connector at one end. (CU connection). These are 9-socket connectors consisting of:

- . Cinch Shell R43 81960 00 000
- . Cannon Connector DEC 9S-F0
- . Cannon Sockets 030-1953 00 000

These connectors are available in kits containing all parts required to mount 50 connectors (excluding cable markers).

A kit contains:

- 50 Connectors
- 50 Shells
- Relevant number of sockets
- Shrink tubing
- Roll of Copper Tape
- Roll of Electro Tape

Such kits can be ordered under the code number 5131 191 44500.

At the other end there is either a "CINCH", a "PHILIPS" or a "BERG" connector, depending on the type of terminal.

18.4 HARDWARE/SOFTWARE INTERFACE DETAILS

Bit configuration input/output register CPU:

Bit no:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	0	D ₂	D ₁	D ₀	T ₂	T ₁	T ₀	0	0	C ₆	C ₅	C ₄	C ₃	C ₂	C ₁	C ₀

T= Terminal Address

D= Device Address

C= Character Code (/00-/7F) (ASCII or Device dependent commands or status-messages)

The following table defines the different types of messages and bit configuration measured at the Local Cable.

Transfer rate can be 38.4 Kbits/second or 76.8 Kbits per second.

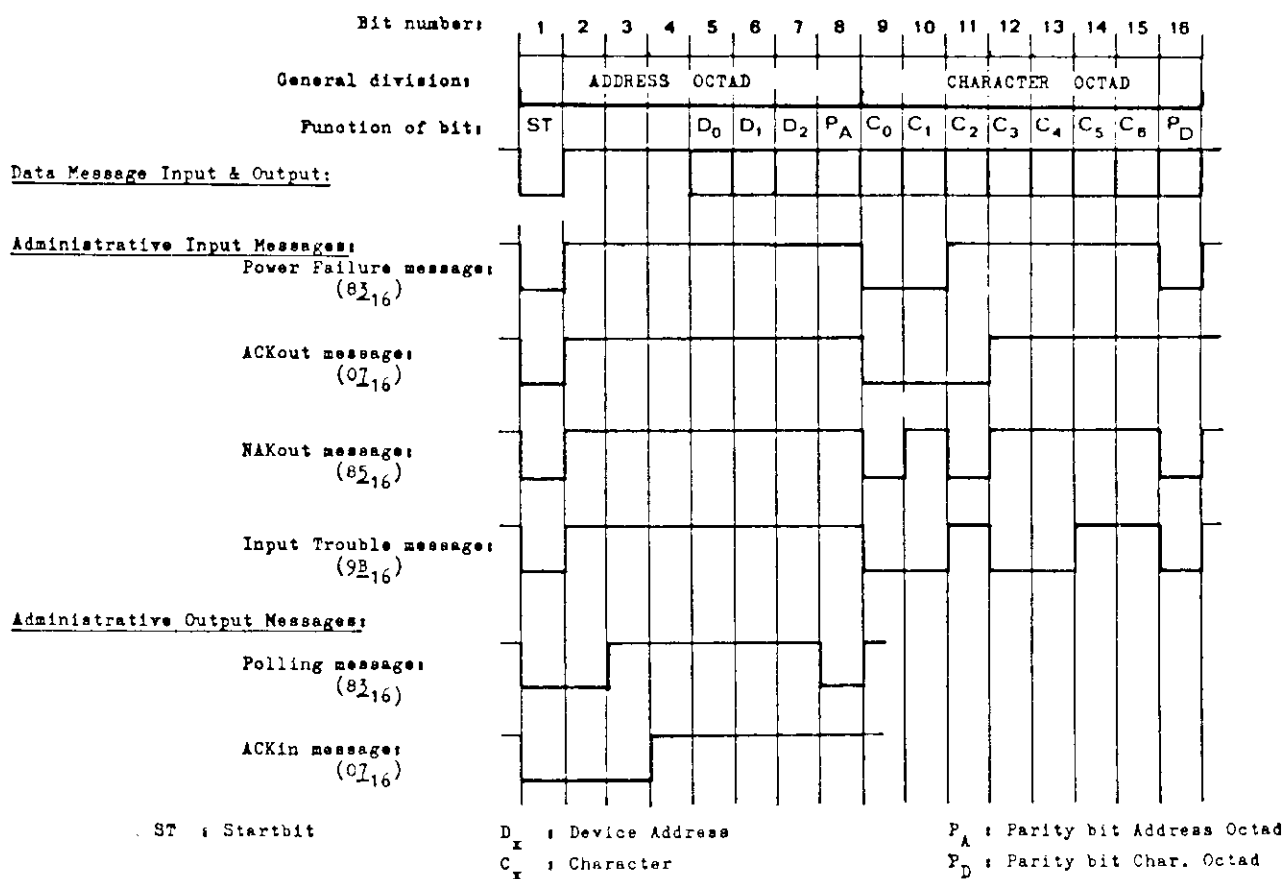


Figure 18.2 MESSAGES AND BIT CONFIGURATION ON THE LOCAL LINE

All Terminal connections (connectors) are "Polled" by the Channel Unit. The POLLING MESSAGE is the sign to a connected Terminal that it can start to do input if any. Output from the Channel Unit is send to the Terminal after the POLLING MESSAGE.

The following figure shows the relation between polling, input and output to one Terminal.

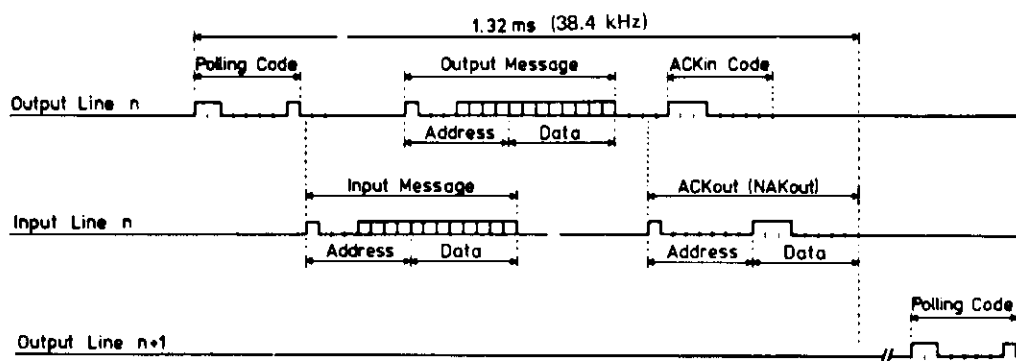


Figure 18.3 SIMULTANEOUS INPUT AND OUTPUT AFTER A POLLING

All input or output messages (except the POLLING MESSAGE) must be acknowledged by the receiver.

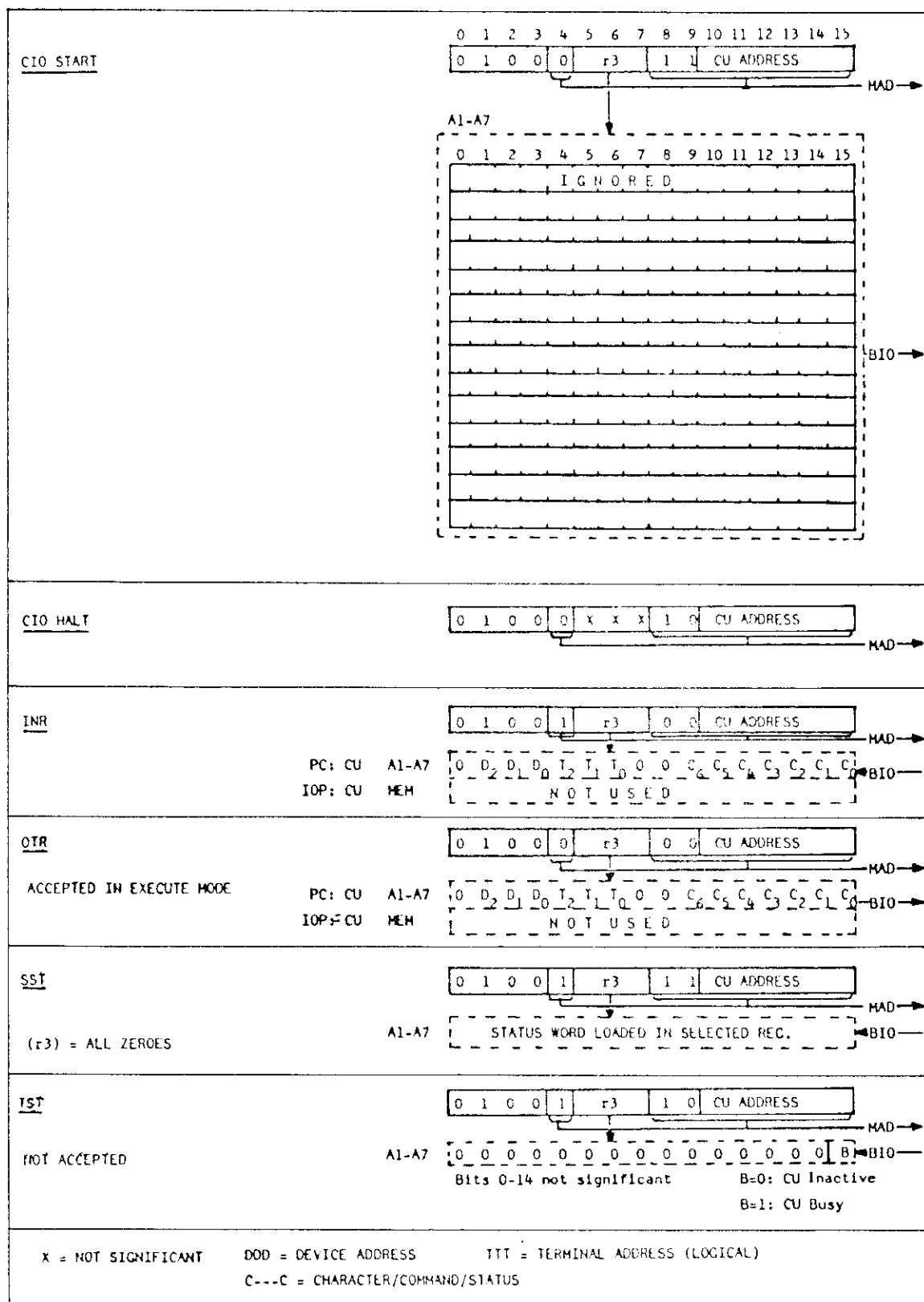
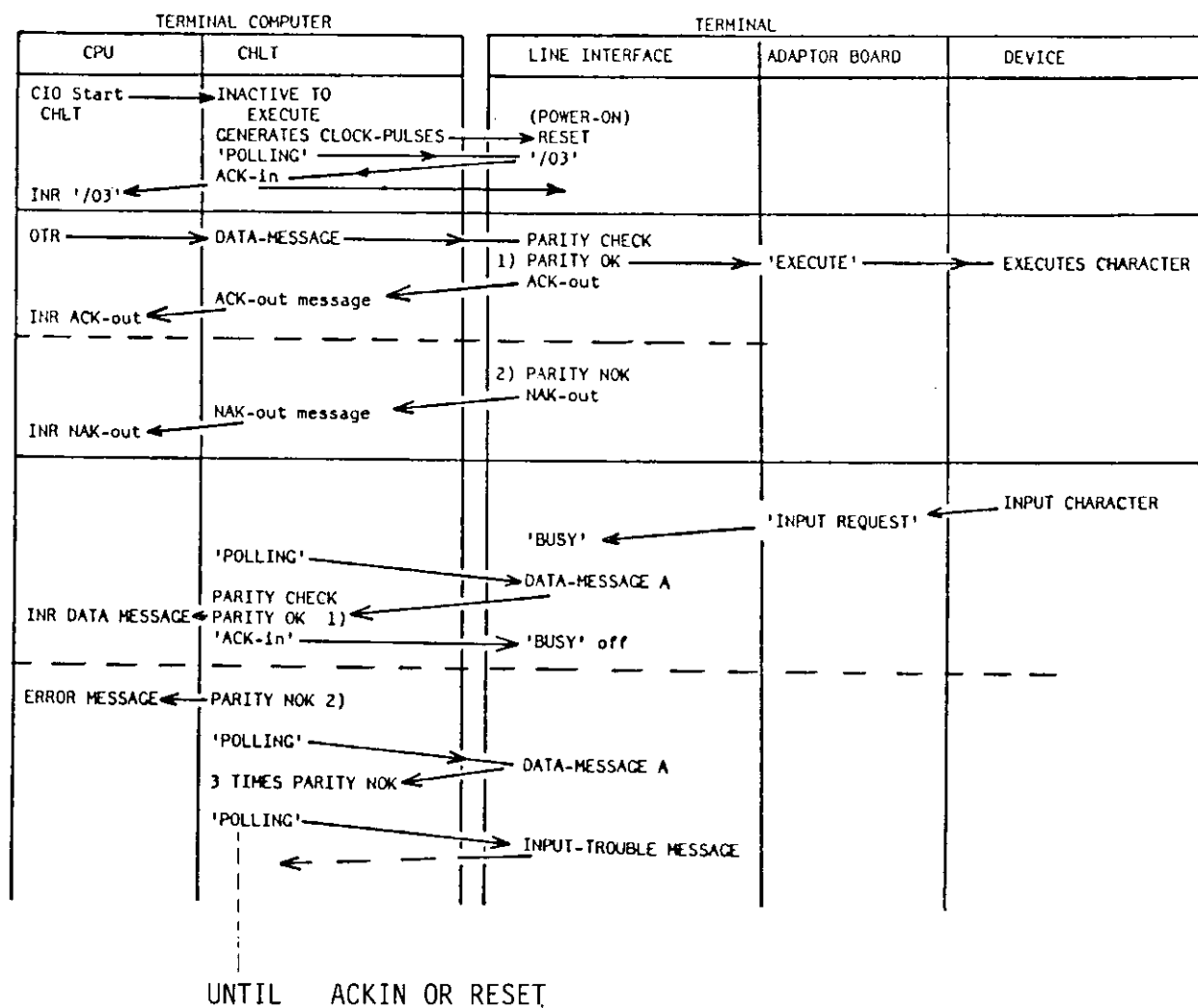


Figure 18.4 INSTRUCTION/COMMAND-WORD FORMAT CHLT

LOCAL PROCEDURE PTS



18.5 SHORT DESCRIPTION OF TEST PROGRAMS

The CHLT can be tested only in combination with a Terminal by means of the test-program TERTST. (See detailed description)

18.6 SHORT ROUTINES

DATE 82-05-05 IDENT KBINPL FOR PTS

```

0000          IDENT      KBINPL          FOR PTS
0001          *DATE: 820505
0002          *PROGRAM FOR INPUT FROM KEYBOARD (ADDR 1) ON CHLT1
0003          *INPUT CHARACTER IS DISPLAYED ON SOP
0004
0005          AORG        /B0
0006
0007 0080 FFFF 0000      DATA      /FFFF,0
0008 0084 20BF          START      INH
0009 0086 41C3          CIO         A1,1,3
0010 0088 4A03          NEXT      INR         A2,0,3
0011 008A 5C04          RB(4)      NEXT
0012 008C 422E          OTR        A2,0,/2E
0013 008E 5F08          RB         NEXT
0014          END          START

```

DATE 82-05-10 IDENT KBVDUL

```

0000          IDENT      KBVDUL
0001          *DATE: 82 05 07 FOR PTS
0002          *PROGRAM FOR INPUT FROM KEYBOARD(DA=1) AND OUTPUT ON
0003          *VDU(DA=4) ON CHLT1
0004          AORG        /B0
0005
0006 0080 FFFF 0000      DATA      /FFFF,0
0007 0084 20BF          START      INH
0008 0086 41C3          CIO         A1,1,3
0009 0088 4A03          IN         INR         A2,0,3
0010 008A 5C04          RB(NA)      IN
0011 008C 8308          LDR         A3,A2
0012 008E A320 F0FF      ANKL       A3,/F0FF
0013 0092 EB20 0007      CWK        A3,7
0014 0096 5010          RF(E)      NEXT
0015 0098 B308          LDR         A3,A2
0016 009A A320 0FFF      ANKL       A3,/FFF
0017 009E 9320 1000      ADKL       A3,/1000
0018 00A2 4303          OTR        A3,0,3
0019 00A4 4C03          INR        A4,0,3
0020 00A6 5C04          RB(4)      *-2
0021 00AB          EQU          *
0022 00AB 422E          OTR        A2,0,/2E
0023 00AA 3AC3          SLC        A2,3
0024 00AC 5E26          RB(NN)      IN
0025 00AE 3AE3          SRC        A2,3
0026 00B0 9220 3000      ADKL       A2,/3000
0027
0028
0029 00B4 4203          OTR        A2,0,3
0030 00B6 5F30          RB         IN
0031
0032
0033          *          BY CHANGING /3000 TO OTHER VALUE:
0034          *          OUTPUT CAN BE DONE ON AN OTHER DEVICE
0035          *EG:          FOR TEP 71
0036          *          CHANGE TO /1000
0037          *          TYPE FROM KEYBOARD: /00,/11,'IT WORKS',/06
0038          *          AND IT WORKS IS WRITEN ON THE YOURLAL.
0039          *          TYPE /OF AND THE PRINTERTEST STARTS
0040          *          TYPE /OC AND THE TEST STOPS
0041
0042
0043          END          START

```

SYMBOL TABLE

```

IN      008B A  NEXT      00AB A  START      00B4 A
          ASS.ERR.      0000
:EDF
PROG ELAPSED TIME: 00H-00M-00S-000MS-

```

```

0000 IDENT TEPLOC
0001 *DATE: 820812 FOR PTS
0002 *TEPLOC IS A PROGRAM THAT PRINTS LINES OF
0003 *CHARACTERS ABCDEFG ON JOURNAL
0004 *
0005 *OF TEP 71
0006 0000 RES /40
0007
0008 0080 FFFF DATA /FFFF
0009 0082 0000 DATA 0
0010 0084 20BF INH
0011 0086 8220 00EA R LDKL A2,DATBUF NO INTERRUPTS
0012 008A 41C3 CID A1,1,3 ADDR OF DATABUFFER
0013 008C 4B03 INR INR A3,0,3 START CHLT
0014 008E 5C04 RB(4) INR MESSAGES
0015 *FIND OUT WHAT MESSAGE IS GIVEN
0016 0090 EB21 0707 CCK A3,/0707 IS IT ACK?
0017 0094 5028 RF(E) NEXT THEN PRINT NEXT CHARACTER
0018 0096 EB21 0505 CCK A3,/0505 IS IT NACK?
0019 009A 502C RF(E) PREV PRINT LAST CHAR AGAIN
0020 009C EB21 0303 CCK A3,/0303 IS IT POWER FAIL?
0021 00A0 5010 RF(E) LDR THEN LOAD LINENUMBER
0022 00A2 EB21 0000 CCK A3,0 WAS IT OUTPUT ERROR
0023 00A6 5020 RF(E) PREV
0024
0025 00AB 432E QTR A3,0,/2E AND START PRINTING ON THIS LINE
0026 00AA 3BC2 SLC A3,2 DISPLAY ANY OTHER MESSAGE ON SUP
0027 00AC 5402 RF(NN) **4 IS IT PRINTER STATUS?
0028 00AE 5700 RF **2 YES THEN STOP
0029
0030 00B0 5F26 RB INR REPLACE BY /207F FOR STOP UN
0031 *LOAD LINENUMBER FROM FOWERFAIL MESSAGE STATUS MESSAGE FROM TEP
0032 *AND PUT IN DEVICE ADDRESS
0033 00B2 840C LDR LDR A4,A3
0034 00B4 9420 2000 ADKL A4,/2000
0035 00B8 8220 00EA R LDKL A2,DATBUF
0036 00BC 5706 RF LCR
0037 00BE EQU *
0038 00BE EA20 00F6 R CWK A2,BUFEND IS IT FINISHED?
0039 00C2 560E RF(NL) AGAIN YES,THEN NEXTLINE ON JOURNAL
0040 00C4 E428 LCR A4,A2 LOAD CHARACTER
0041 00C6 5702 RF **4
0042 00C8 1A01 PREV SUK A2,1
0043 00CA 4403 QTR A4,0,3 WRITE CHARACTER
0044 00CC 5C42 RB(4) INR
0045 00CE 1201 ADK A2,1
0046 00D0 5F46 RB INR GET ANSWER
0047 00D2 8520 0500 AGAIN LDKL A5,/500 TIME DELAY AFTER 1 LINE
0048 00D6 8620 0100 TIMDEL LDKL A6,/100
0049 00DA 1E01 SUK A6,1
0050 00DC 5C04 RB(NZ) *-2
0051 00DE 1D01 SUK A5,1
0052 00E0 5C0C RB(NZ) TIMDEL
0053 00E2 5700 RF **2 CAN BE CHANGED TO HLT /207F TO
0054 STOP AFTER EVERY LINE
0055 00E4 8220 00EA R LDKL A2,DATBUF LOAD ADDR DATA BUF
0056 00E8 5F26 RB LCR GOT PRINT NEXT LINE
0057
0058 *DATA BUFFER
0059 00EA 0D11 DATBUF DATA /0D11 CARIAGE RETURN,LINE FEED
0060 00EC 4142 4344 DATA 'ABCDEFGH'
0061 00F4 4906 DATA /4906 I AND END OF TEXT
0062
0062 BUFEND END INR-8

```

SYMBOL TABLE

```

AGAIN 00D2 R BUFEND 00F6 R DATBUF 00EA R INR 008C R
LCR 00C4 R LDR 00B2 R NEXT 00BE R PREV 00C8 R
TIMDEL 00D6 R

```

ASS.ERR. 0000

:EOF

PROG ELAPSED TIME: 00H-00M-18S-700MS-

18.7 INSTALLATION SUML AND SUMR

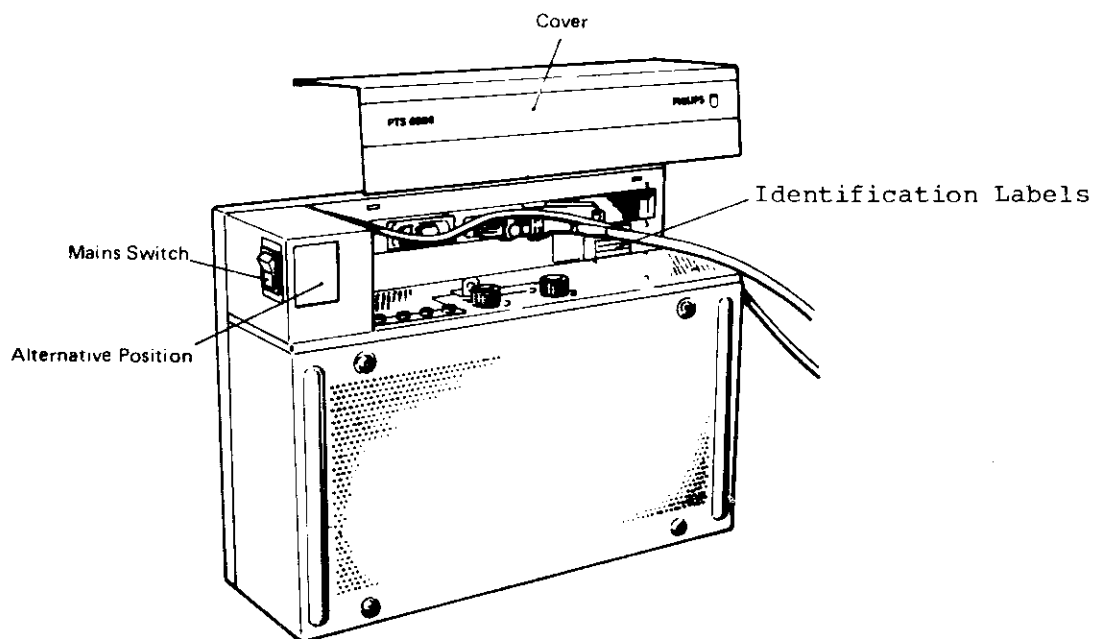


Figure 18.5 TYPICAL SELECTOR UNIT

6X1X - XXX

		Configuration, see Table 18.2
		0 = Local Connection, 1 = Remote Connection
		1 = Non-modular 80W unit
		2 = Non-modular 100W unit
		3 = Reserved for future use
		4 = Modular 100W unit (SUM)
		2 = Teller Terminal Environment
		3 = General Terminal Environment or modular unit
		5 = Special Terminal Environment

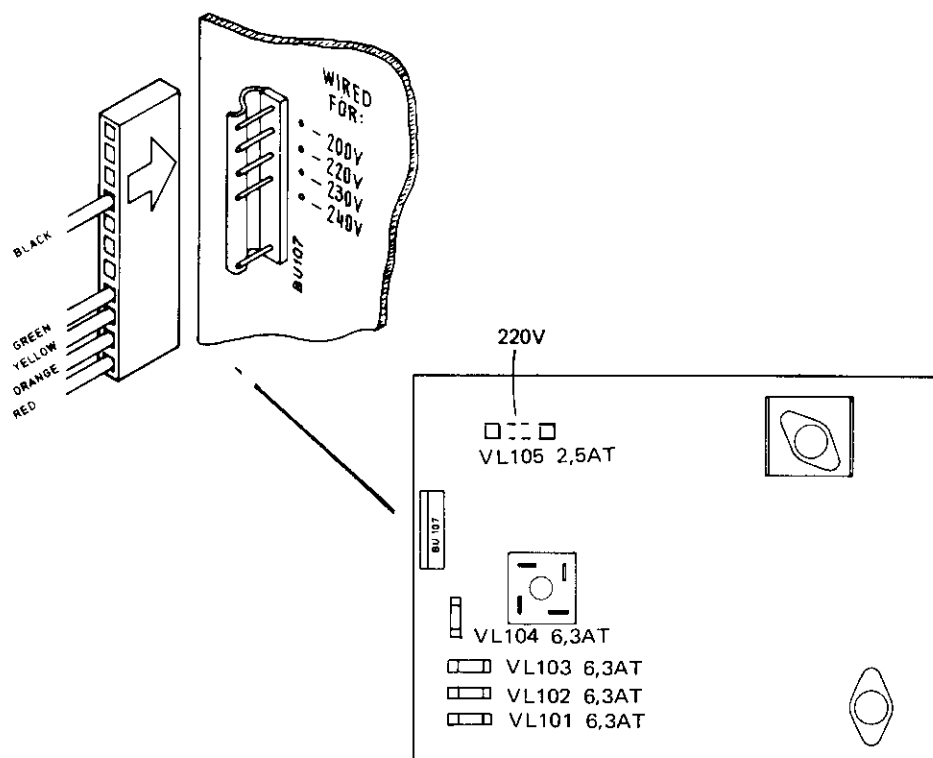


Figure 18.6 MAINS VOLTAGE SELECTOR

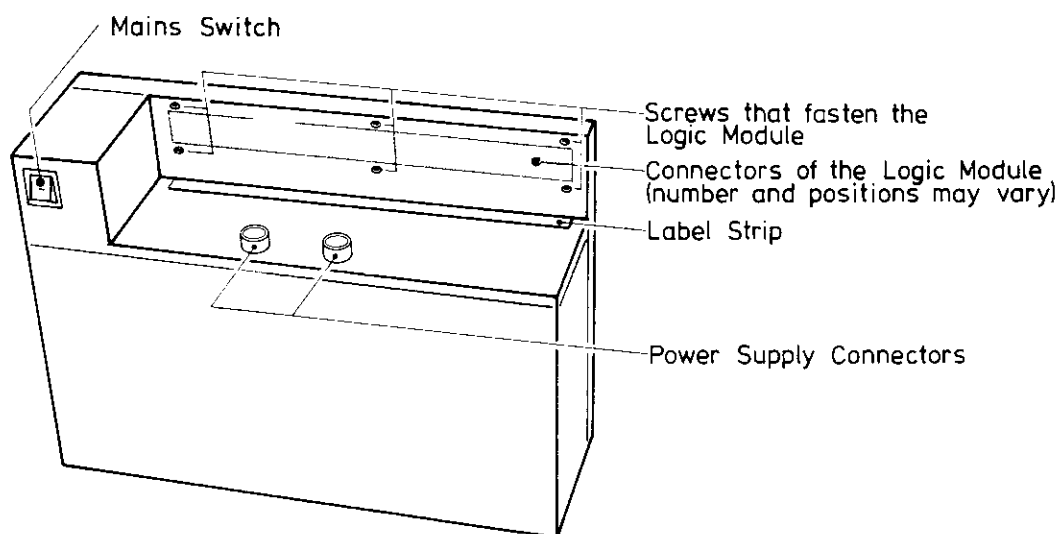
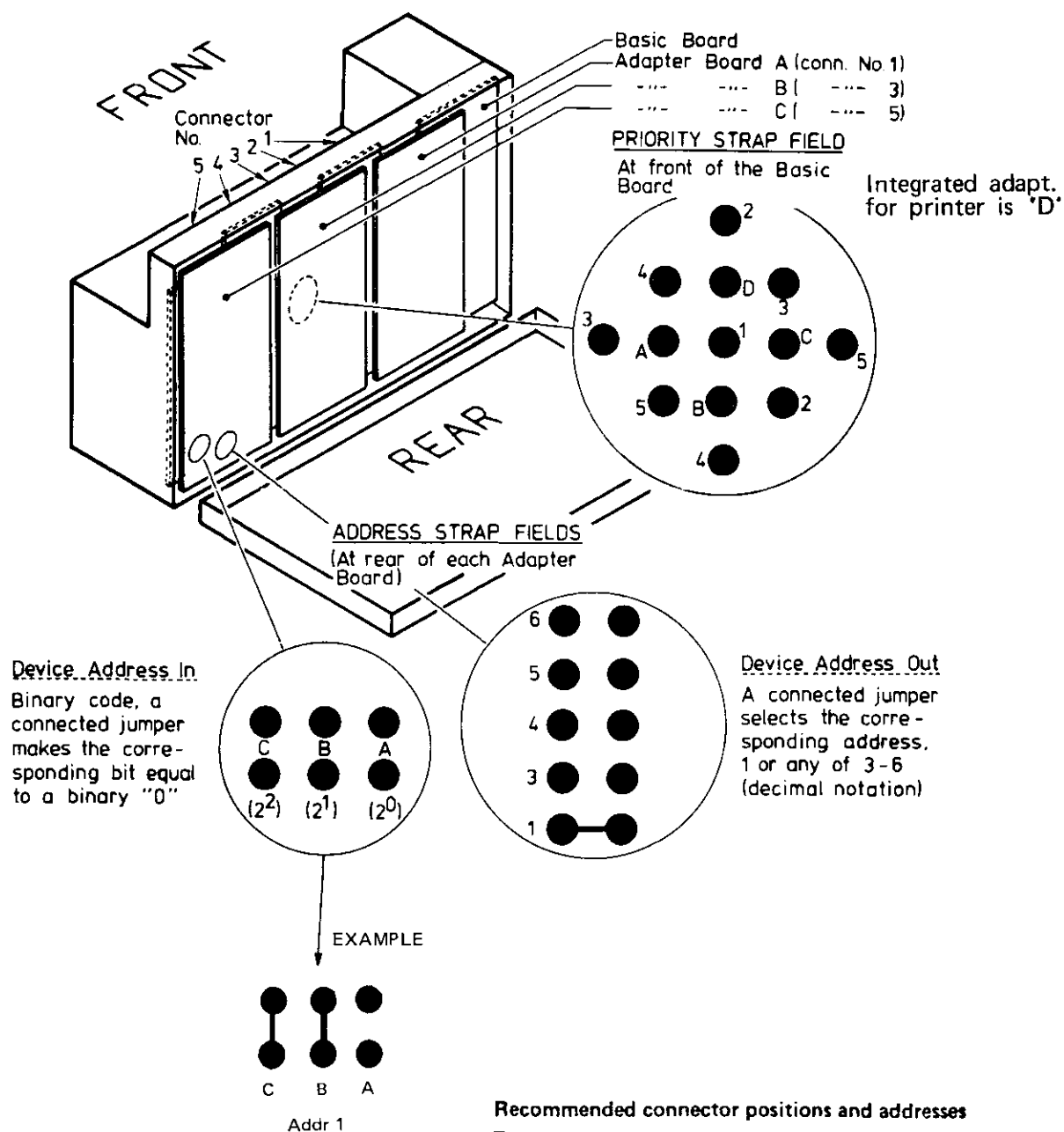


Figure 18.7 CONNECTORS, SCREWS AND LABEL STRIP ON SELECTOR UNITS



Recommended connector positions and addresses

The table shows recommended connector positions and addresses for each group of device. If two devices of the same kind or another collision occur a second hand alternative of recommended positions/addresses is also given. Each device shall have unique connector position and address.

Device	Connector position	Address	
		In	Out
Printer	4	2	2
Keyboard			
1st alt.	1	1	1
2nd alt.	5	5	5
Display			
1st alt.	3		4
2nd alt.	5		3
Reader/Writer	5	5	5

Figure 18.8 JUMPERS IN MODULAR SELECTOR UNITS

The basic unit of the PTS 6314 Selector Unit Modular includes the printer interface. 3 additional adapter boards can be inserted and connected. (1 printer connectable to each SUM). Some subnumbers may show the same

configuration of device interfaces (adapter boards) but they differ on the adjustment side. Therefore regarding connector positions, addresses and priorities please see next page.

SUML = Selector Unit Modular Local

SUMR = Selector Unit Modular Remote

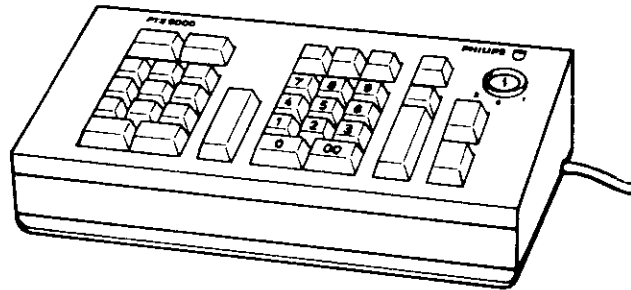
Subnumbers				Device Interface (adapter boards) 12 NC 5131 192 . . .										Extra PROM
SUML 50 Hz	SUMR 50 Hz	SUML 60 Hz	SUMR 60 Hz	19600 for SDT 6242	28800 for NSD 6241	29900 for VDU all	35900 for POU 6351	50900 for KBA 6331	51100 for KBN 6231	51300 for KBNS 6233	52500 for KBAN 6232/4	75200 for 1)		
001	101				1				1					
002	102			1					1					
003	103								1					
004	104										1			
005	105							1	1					
006	106			1		1			1					
007	107					1								
008	108				1						1			
009	109	209	309											
010	110				1						1			
011	111			1							1			
012	112						1				1			
013	—				1			1	1					
014	114						1		1		1			
015	115							1						
016	116										1			
017	117			1				1	1					
018	118	218	318			1					1			
019	119									1			PTT-S	
020	120			1			1		1					
022	122	222	322				1		1					
025	125						1	1	1					
026	126						1			1				
027	127			1						1				
028	128					1		1						
029	129						1				1			
030	130					1					1			
031	131						1				2		ASLK	
032	132			1					2					
033	133											1		
034	134	234	334			1						1		
035	135						1				2			
036	136											2		
037	137					1			1					
038	138	238	338				1					1		
039	139			1					1		1			
040	140						1	1						
041	141										2			
042	142						1					2		
043	143	243	343									2		
044	144	244	344									3		
045	145								1			1		
046	146										2	1		
047	147					1						2		
048	148					1						2		

1) 5131 192 75200 = PTS 6000 Standard Device Interface, PTS 6317 SDI, for the keyboards 6236/6271/6272, the displays 6385/6386 and the reader/writer units 6261/6266.

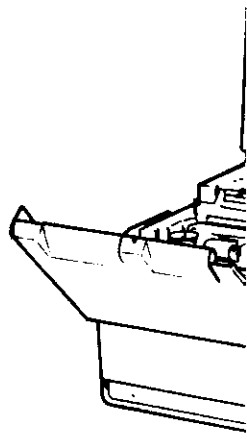
05.04.3.
Oct. 197.

Table 18.2a CONFIGURATION LIST SUML, SUMR-VERSION 1

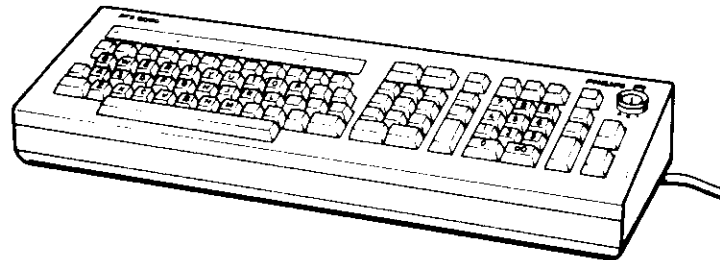
PTS 6231 Keyboard Numeric



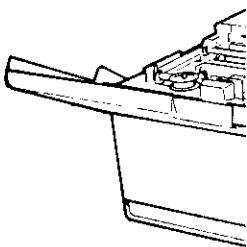
PTS 6221 Teller Te



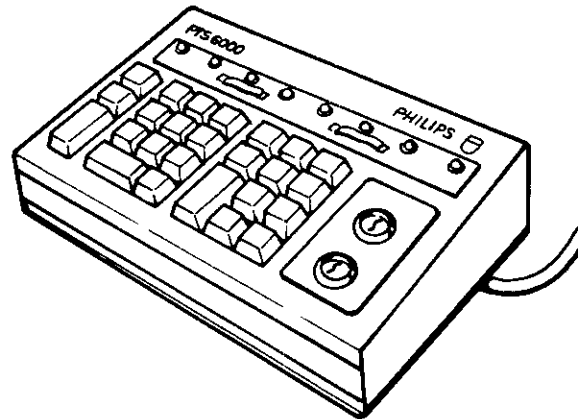
**PTS 6232
PTS 6234 Keyboard Alpha Numeric**



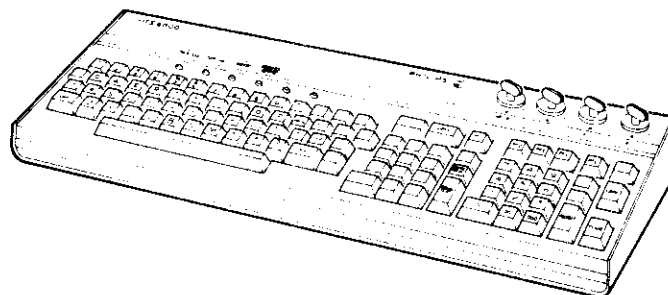
**PTS 6222
PTS 6224 Teller Te**



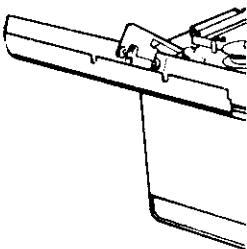
PTS 6233 Keyboard Numeric



PTS 6236 Keyboard Alpha Numeric



PTS 6223 Teller Te



PTS 6331 Keyboard Alpha Numeric

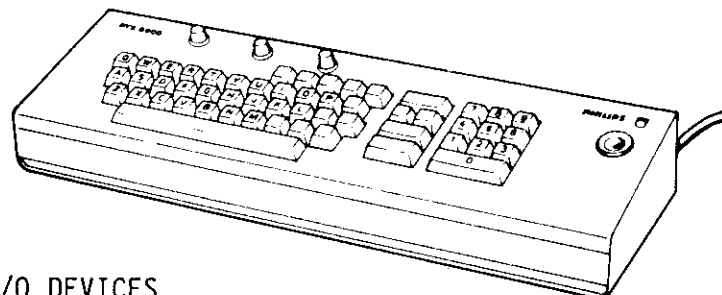
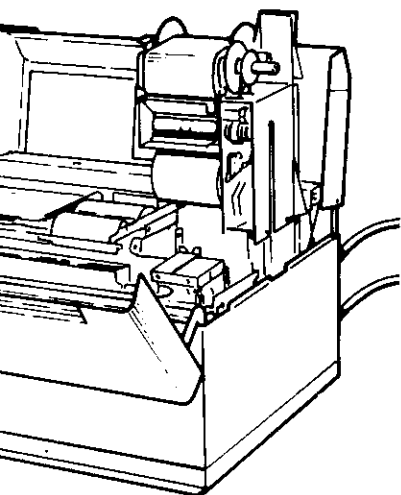
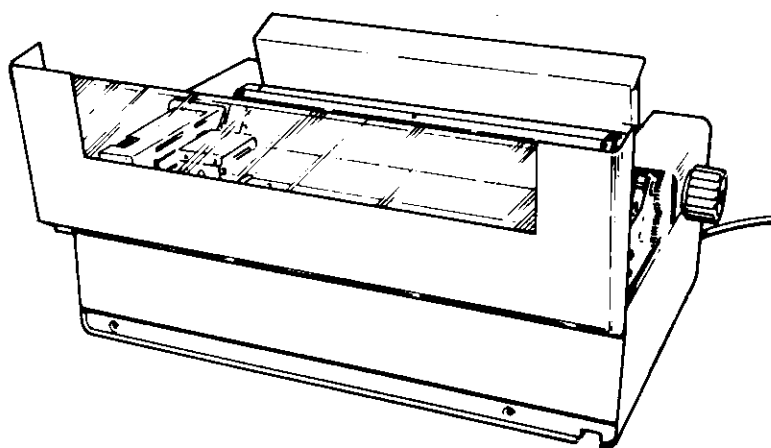


Figure 18.8 TERMINAL I/O DEVICES

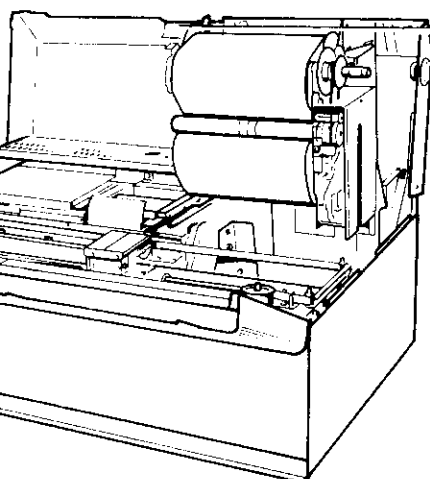
Terminal Printer



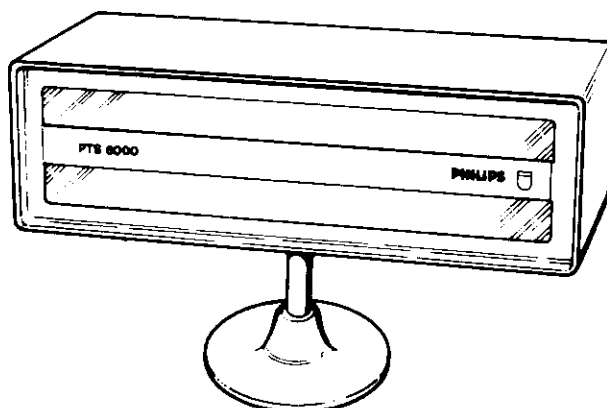
PTS 6321 General Terminal Printer



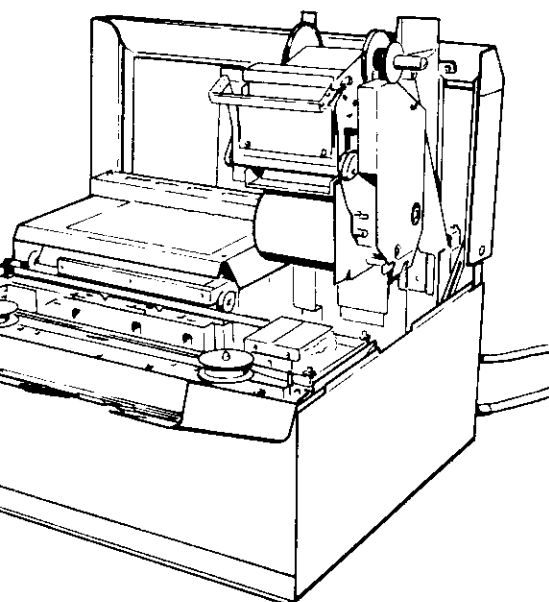
Terminal Printer



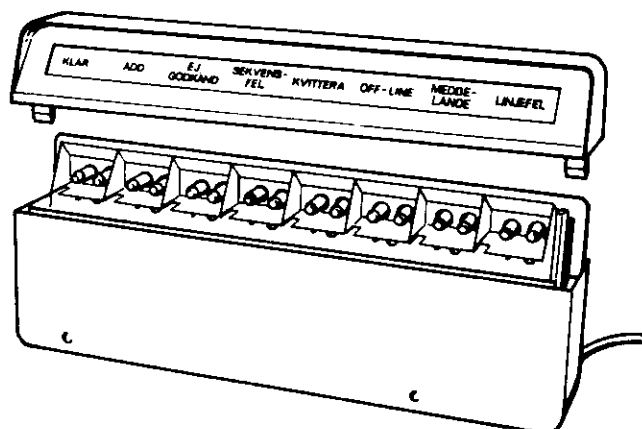
PTS 6241 Numeric and Signal Display



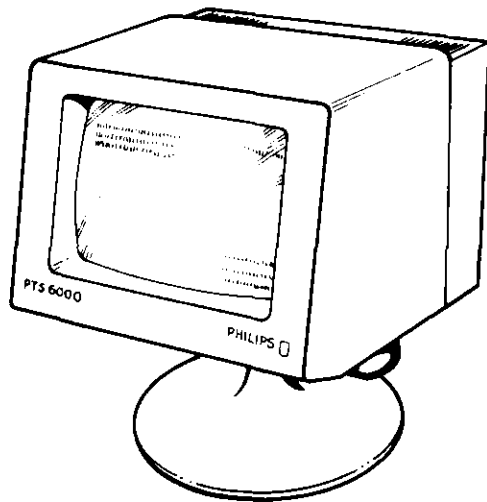
Terminal Printer



PTS 6242 Signal Display



PTS 6344 Video Display Unit



PTS 6351 Plasma Display Unit

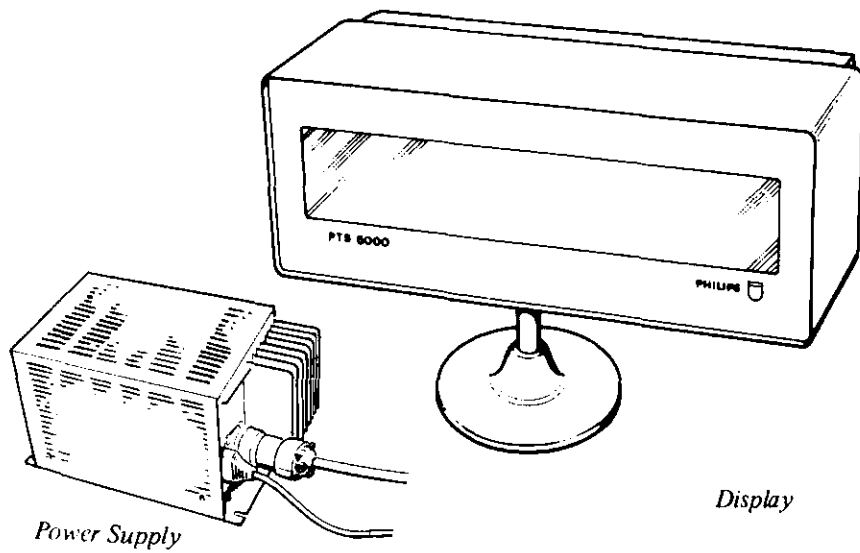


Figure 18.9 TERMINAL I/O DEVICES (CONT'D)